# AUTOMATED CONFIGURATION OF SYSTEMS COMPRISING PRODUCT COMPONENTS OF HETEROGENEOUS CONTEXTS

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## ABSTRACT OF THE DISCLOSURE

An automated heterogeneous configurator employs a technique by which the state of a context can be changed and restored automatically to facilitate the configuration of systems having components that span multiple contexts. The technique employs a high level constraint that is programmed into the component class of a model that requires a component object to determine the appropriate context for that object at the beginning of its installation within the configuration, and if the current state of the context is not that which is appropriate for the object component, the installation process for the component changes the state of the context to reflect that which is appropriate for the component. Each time the configuration engine encounters a decision point statement, such as a requires_component, the current state of the context is cached, so that if a subsequent installation of a component object changes the state, the current state can be later restored automatically upon completion of the installation of the component. In the event that the installation of an object that has changed the current state of the context generates as part of its installation additional requires_component statements, they are processed in the same manner. If the installation of any of these component objects changes the state, the process becomes nested and the restoration of the cached state occurs each time the installation of an object completes that had changed the current state of the context. The most common context is the product line context, but any other context pertinent to the configuration of heterogeneous systems can be applied to this technique.